IN THE CLAIMS:

1. (Currently Amended) A method for detecting, locating and visualizing UV emittance in an environment illuminated by at least one of daytime outdoor illumination and equivalent artificial indoor illumination, the method comprising:

simultaneously imaging in a common optical axis a scene suspected of containing a source of UV emittance at the same time with two imaging units, a first solar blind UV (SBUV 240-280NM) imaging unit imaging in the SBUV 240-280NM spectral band, and a second, visible imaging unit imaging in the visible spectrum range; and

combining the images as obtained by said simultaneous imaging in a common optical axis, by overlaying a first image obtained from said first imaging unit over a second image obtained from said second imaging unit thereby forming one combined and exactly registered visual image showing the UV emittance in its exact position within background scenery of the scene and with no parallax.

2. (Previously presented) A method according to claim 1 wherein the combining of said first and second images is carried out by optical combining means, allowing viewing of the combined visual image.

3. (Previously presented) A method according to claim 1 further comprising transferring the combined visual image into electronic recording and/or displaying means for recording and/or displaying the combined visual image.

4. (Original) A method according to claim 3 wherein the electronic recording and/or displaying means is a videotape and a video monitor.

5. (Cancelled)

6. (Currently Amended) A method according to claim 1 further comprising, first acquiring an image of the scene to obtain an acquired image having a spectrum spanning at least the visible spectrum range and the SBUV 240-280NM spectral band of the scene, and then separating the spectrum of the acquired image, wherein an UV spectrum of the acquired image in the SBUV 240-280NM spectral ~~range~~ band is transferred into said first SBUV 240-280NM imaging unit, and the acquired image in the visible spectrum range is transferred into said second visible imaging unit.

7. (Cancelled).

8. (Currently Amended) Apparatus for detecting, locating and visualizing UV emittance in an environment illuminated by at least one of daytime outdoor illumination and equivalent artificial indoor illumination, comprising:

image acquiring means, for acquiring from a common optical axis an image of a scene, the image spanning at least a visible spectrum and a Solar Blind UV (SBUV 240-280NM) spectrum, and for simultaneously providing a first image from the scene into an SBUV 240-280NM imaging unit, and a second image from the scene into a visible imaging unit;

said SBUV 240-280NM imaging unit comprising:

a. a solar blind ultraviolet optical filter allowing transmittance of optical radiation in a solar blind UV spectrum range, and absorbing optical radiation in all other spectral regions;

b. SBUV 240-280NM image providing means for receiving the optical radiation in the solar blind UV spectrum range, passed through said solar blind ultraviolet optical filter, and providing a first visible image, being a solar blind UV image;

said visible imaging unit receiving said second image of the scene from the image acquiring means, and providing a second visible image, representing visible background scenery of the scene; and

combining means for receiving the first visible image from the SBUV 240-280NM imaging unit and the second visible image from the visible imaging unit, and combining, by

overlaying said first visible image over said second visible image thereby producing one combined and exactly registered visual image showing the UV emittance in its exact position within the background scenery with no parallax.

9. (Currently Amended) Apparatus according to claim 8 wherein the image acquiring means comprises two image acquiring elements, a first element providing the first image of the scene into the SBUV 240-280NM imaging unit, and a second element providing the second image of the scene into the visible imaging unit.

10. (Previously presented) Apparatus according to claim 9 wherein the first and second elements incorporate optical lenses.

11. (Currently Amended) Apparatus according to claim 8 wherein the solar blind ultraviolet optical filter is positioned one of before an optical lens of the SBUV 240-280NM imaging unit, after the optical lens of the SBUV 240-280NM imaging unit, and incorporated within the optical lens of the SBUV 240-280NM imaging unit.

12. (Currently Amended) Apparatus according to claim 8 wherein the image acquiring means comprises a beamsplitter receiving optical beams from the scene along said common optical axis, and splitting the ~~said~~ received optical beams so that the beams spanning at least the SBUV 240-280NM spectrum are directed towards the SBUV 240-280NM imaging unit and the beams spanning at least the visible spectrum are directed towards the visible imaging unit.

13. (Original) Apparatus according to claim 12 wherein the beamsplitter is a dichroic beamsplitter.

14. (Currently Amended) Apparatus according to claim 8 wherein the SBUV 240-280NM imaging unit further comprises a first lens receiving the radiation in the solar blind UV spectrum range passing through the solar blind ultraviolet optical filter, and producing the

solar blind UV image of the scene, wherein the scene is suspected of containing a source of UV emittance.

15. (Currently Amended) Apparatus according to claim 14 wherein the SBUV 240-280NM image providing means further comprises a SBUV 240-280NM image sensor located at an image plane of the first lens, said SBUV 240-280NM image sensor creates a visible image of the solar blind UV image of the scene.

16. (Currently Amended) Apparatus according to claim 15 wherein the SBUV 240-280NM image sensor contains a fluorescent screen.

17. (Currently Amended) Apparatus according to claim 15 wherein the SBUV 240-280NM image sensor is a UV solar blind image intensifier.

18. (Currently Amended) Apparatus according to claim 15, wherein the SBUV 240-280NM image sensor is selected from among a group of sensors consisting of CMOS, CCD, BCCD, EBCCD, ICCD, MCP-PMT having multianode, and MCP-PMT having position sensitive anode output, for producing first electronic signals describing said UV image.

19. (Previously presented) Apparatus according to claim 8 wherein the combining of the first visible image of the solar blind UV range of the scene and the second visible image is carried out by a beamsplitter simultaneously receiving said first and second visible images.

20. (Currently Amended) Apparatus according to claim 8, wherein the visible imaging unit comprises an image sensor selected from among a group of sensors consisting of CCD, CMOS, and CID, receiving ~~the visible image~~ said second image from the scene, and producing second electronic signals describing said second visible image.

21. (Previously presented) Apparatus according to claim 8, wherein the combined visual image is obtained by at least one of arithmetic mixing, non-arithmetic mixing, luminance

keying and chroma keying, for combining first and second electronic signals representing the first and second visible images, respectfully.

22. (Original) Apparatus according to claim 8 further comprising electronic recording and/or displaying means for recording and/or displaying the combined visual image.

23. (Currently Amended) Apparatus according to claim 22 wherein the electronic recording and/or displaying means is a ~~standard~~ videotape or a video monitor.

24. (Currently Amended) Apparatus according to claim 8 wherein the visible imaging unit comprises only passive optical elements and the SBUV 240-280NM imaging unit comprises passive optical elements and a UV image intensifier, wherein both said visible and SBUV 240-280NM imaging units acquire their images from said common optical axis and both apply same effective magnification.

25. (Original) Apparatus according to claim 24 made in a monocular form.

26. (Original) Apparatus according to claim 24 made in binocular form.

27. (Original) Apparatus according to claim 8 further comprising stills camera means for recording the combined visual image on a stills camera film.

28. (Previously presented) Apparatus according to claim 21 further comprising a processing unit for processing at least one of the first and second electronic signals for at least one of improving the contrast between the image of the UV emittance and the background scenery in the combined visual image, for the elimination of noise, the identification of UV emitters in the scene, and the capture of transient UV events in the scene.

29. (Original) Apparatus according to claim 28 wherein the processing unit is a digital processing unit.

30. (Original) Apparatus according to claim 28 wherein the processing unit is an analog processing unit.

31. (Previously presented) Apparatus according to claim 28 further comprising means for providing an alarm as to the detection of UV emittance which is above a predefined threshold level.

32. (Previously presented) Apparatus according to claim 28 further comprising means for initiating action as to the detection of UV emittance which is above a predefined threshold level.

33. (Previously presented) Apparatus according to claim 32 wherein the action is initiation of fire extinguishing means.

34. (Previously presented) Apparatus according to claim 32 wherein the action is documentation of UV emitting events in the scene.

35. (Currently Amended) A method of detecting, locating, and visualizing emittance of UV sources and emittance of IR sources in a common scene suspected of containing a source of UV emittance comprising:

simultaneously imaging in a common optical axis the scene and its IR background scenery with two imaging units, a first solar blind UV (SBUV 240-280NM) imaging unit comprising a solar blind filter allowing only transmittance of UV emissions and being suitable of visually forming and displaying images from said UV emissions, and a second IR imaging unit being suitable of visually forming and displaying images from IR emissions; and

combining the images as obtained by said simultaneous imaging in a common optical axis, by overlaying the image formed by said SBUV 240-280NM imaging unit over the image formed by said IR imaging unit, thereby forming one combined and exactly registered

visual image showing the UV emittance and the IR emittance in their exact positions within the scenery with no parallax.

36. (Previously presented) A method according to claim 1, wherein the UV emittance is caused by electrical discharge.

37. (Previously presented) Apparatus according to claim 8 wherein the UV emittance is caused by electrical discharge.

38. (Previously presented) A method according to claim 1, wherein the UV emittance is emittance caused by combustion.

39. (Previously presented) Apparatus according to claim 8 wherein the UV emittance is emittance caused by combustion.

40. (Previously presented) A method according to claim 1, for locating and tracking objects which are provided with a light source emitting UV radiation.

41. (Previously presented) Apparatus according to claim 8 for locating and tracking objects which are provided with a light source emitting UV radiation.

42. (Previously presented) A method according to claim 1, for imaging and monitoring phenomena that produce UV emission.

43. (Previously presented) Apparatus according to claim 8 for imaging and monitoring phenomena that produce UV emission.

44. (Original) A method according to claim 42 wherein the phenomenon is a Cherenkov radiation.

45. (Original) Apparatus according to claim 43 wherein the phenomenon is a Cherenkov radiation.

46. (Original) A method according to claim 42 wherein the phenomena produce transient UV emissions.

47. (Previously presented) Apparatus according to claim 43 wherein the phenomena produce transient UV emissions.

48. (Previously presented) A method according to claim 1 for visual imaging of reflections from objects illuminated by UV light sources.

49. (Previously presented) Apparatus according to claim 8 for visual imaging of reflections from objects illuminated by UV light sources.

50. (Original) A method according to claim 48 wherein the objects illuminated by the UV sources are finger prints or fluid stains.

51. (Original) Apparatus according to claim 49 wherein the objects illuminated by the UV sources are finger prints or fluid stains.

52. (Cancelled).

53. (Previously presented) A method according to claim 35, wherein the UV emittance is caused by electrical discharge.

54. (Previously presented) A method according to claim 35, for detecting UV emittance from combustion.

55. (Previously presented) A method according to claim 35, for locating and tracking objects which are provided with a light source emitting UV radiation.

56. (Previously presented) A method according to claim 35, for imaging and monitoring phenomena that produce UV emission.

57. (Previously presented) A method according to claim 35 for visual imaging of reflections from objects illuminated by UV light sources.

58. (Cancelled).

59. (Currently Amended) Apparatus according to claim 8, wherein the image acquiring means comprises an optical lens which acquires SBUV 240-280NM and visible light beams from said common optical axis and transmits the SBUV 240-280NM light beams spanning the UV image towards the SBUV 240-280NM imaging unit, and a mirror in front of a central portion of said lens, for reflecting light in the visible spectrum towards the visible imaging unit.